

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 December 2004 (29.12.2004)

PCT

(10) International Publication Number
WO 2004/113408 A1

(51) International Patent Classification⁷: **C08F 297/00**,
C09D 153/00

(21) International Application Number:
PCT/JP2004/009273

(22) International Filing Date: 24 June 2004 (24.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-181256 25 June 2003 (25.06.2003) JP
2003-434540 26 December 2003 (26.12.2003) JP

(71) Applicant (for all designated States except US): **CANON KABUSHIKI KAISHA** [JP/JP]; 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SUDA, Sakae** [JP/JP]; c/o Canon Kabushiki Kaisha, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). **NAKAZAWA, Ikuo** [JP/JP]; c/o Canon Kabushiki Kaisha, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). **SATO, Koichi** [JP/JP]; c/o Canon Kabushiki Kaisha, 3-30-2,

Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). **HIGASHI, Ryuji** [JP/JP]; c/o Canon Kabushiki Kaisha, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). **IKEGAMI, Masayuki** [JP/JP]; c/o Canon Kabushiki Kaisha, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). **TSUBAKI, Keiichiro** [JP/JP]; c/o Canon Kabushiki Kaisha, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). **YAMAGISHI, Keiko** [JP/JP]; c/o Canon Kabushiki Kaisha, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP).

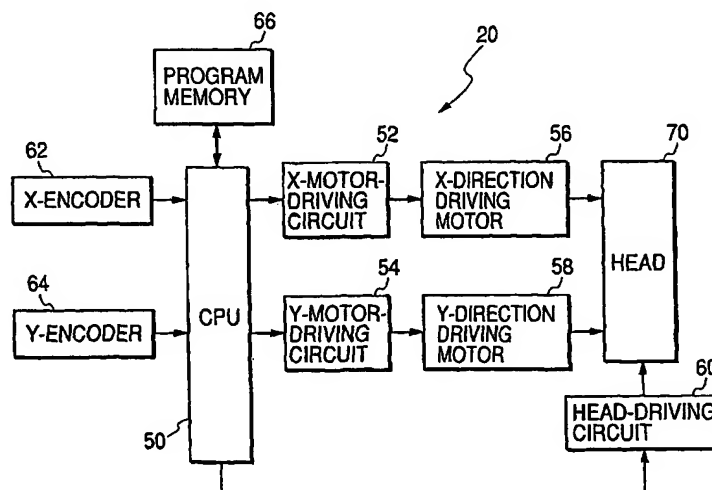
(74) Agents: **OKABE, Masao** et al.; No. 602, Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo 1000005 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: **BLOCK POLYMER, POLYMER-CONTAINING COMPOSITION CONTAINING THE SAME, INK COMPOSITION AND LIQUID APPLYING METHOD AND LIQUID APPLYING APPARATUS UTILIZING THE POLYMER-CONTAINING COMPOSITION**



(57) Abstract: A block polymer comprised of a polyalkenyl ether main chain comprises a first block segment having hydrophobicity; a second block segment having an upper limit hydration temperature exceeding 70°C; and a third block segment having an ionic property. A polymer-containing composition comprises the block polymer, a solvent or a dispersing medium, and a functional substance. An ink composition comprises the polymer-containing composition wherein the functional substance is colorant. A liquid application method comprises the steps of preparing the polymer-containing composition; and applying the polymer-containing composition to a medium. A liquid application apparatus comprises a liquid application means which makes energy act on the polymer-containing composition to apply the composition; and a drive means which drives the liquid application means. The polymer compound is capable of satisfactorily dispersing a functional substance in a solvent.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.